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JUL 25 2011

Ref: EPR-N

Drew Persinko, Deputy Director
U.S. Nuclear Regulatory Commission
Environmental Protection and Performance Assessment Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
Mail Stop TWB-05-B01
Washington, D.C. 20555-0001

Re: NUREG – 1910, Supplement 3
Final Supplemental Environmental Impact Statement for the Lost Creek ISR Project
CEQ#20110197

Dear Mr. Persinko:

The U.S. Environmental Protection Agency Region 8 has reviewed the Nuclear Regulatory Commission's Final Supplemental Environmental Impact Statement (SEIS) for the Lost Creek In-Situ Recovery (ISR) Project. The SEIS considers the environmental impacts that would be connected with the NRC's issuance of a license to possess and use source material for uranium milling at the Lost Creek ISR Project in Sweetwater County, Wyoming. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609.

The EPA appreciates the willingness that the NRC has shown to address our comments on the Lost Creek Draft SEIS, provided in March 2010. Through ongoing coordination between our agencies since that time, the NRC has made efforts to consider the EPA's perspective and concerns. These efforts are reflected in the Final SEIS, which provides a more complete analysis of the Lost Creek ISR project than the Draft SEIS and also improves upon Supplements 1 and 2. This letter acknowledges key areas of improvement and provides information that we hope will be of assistance to the NRC as you move forward with this licensing decision and toward completion of future ISR-related SEISs.

Range of Reasonable Wastewater Disposal Alternatives

One of the EPA's primary concerns during review of the Draft SEIS was the inadequate analysis of a range of reasonable wastewater disposal alternatives for the project. We acknowledge the NRC's efforts to be responsive to the EPA's comments in this regard, including expansion of the range of alternative wastewater disposal options to include methods or technologies not contained within the proposed license application. The EPA appreciates the additional information on wastewater disposal alternatives

provided in Section 2.1.1.2 of the Final SEIS. Table 2-2 compares the options, and Section 4.14.1.2 discusses the potential impacts from implementing the alternative wastewater disposal options.

Since release of the Draft SEIS, the applicant has received a permit from the Wyoming Department of Environmental Quality (DEQ) for up to five Class I injection wells to be used for deep disposal of liquid wastes into the Fort Union formation. In future SEISs for which an applicant has already received a permit from the state or the EPA for their selected disposal method, we recommend that the NRC ask the applicant to provide justification for the selection of a particular disposal method. The NRC may want to discuss in the Lost Creek ROD some of the wastewater disposal options that were least preferred by the applicant as "alternatives eliminated from detailed analysis."

Disclosure of Potential Impacts of Wastewater Disposal

The EPA recommends that additional discussion of the potential impacts of wastewater disposal be disclosed for ISR projects. We recommend including potential impacts to groundwater resources in the Record of Decision (ROD) to fully inform the public and the decisionmakers. For future ISR projects in which an underground injection control permit has already been received by the applicant, we recommend that the NEPA document utilize information available in the permit to provide for more complete disclosure of site-specific conditions and potential impacts. Regardless of whether a permit has already been received by the applicant, increased discussion of the process by which permits are issued and the environmental and safety factors that are considered in their approval would improve disclosure of potential impacts. We have enclosed an example list of requirements for an underground injection control permit pertinent to EIS evaluations of ISR facilities, which NRC may find helpful in the future.

During review of the Draft SEIS for Lost Creek, the EPA expressed concern that underground sources of drinking water (USDWs) may occur below the proposed Class I injection zone in the Fort Union formation. In order to inject into a Class I well, the injection zone cannot be a USDW, and all underlying formations cannot be USDWs. Although the Final SEIS explains that Wyoming DEQ determined that the Fort Union formation is not classified as a USDW due to total dissolved solids levels, it does not discuss the status of the deeper formations. The EPA recommends that aquifer exemptions be covered in any EIS as an important element of analysis and disclosure through the NEPA process. For future SEISs, we recommend that the NRC provide the evaluation of formations below those proposed for Class I injection and any relevant aquifer exemptions approved by the permitting agency.

Air Quality

The EPA is pleased to see the detailed air emissions inventory for the construction, operation, and decommissioning phases. The Appendix D analysis for nonroad combustion engine emissions is straightforward and makes use of generally accepted values for source emission factors from reliable published sources. The EPA recommends future ISR SEISs provide similar detailed information. If ISR facilities proposed in the future present a substantial increase in emissions or are located closer to more sensitive areas, such as population centers, nonattainment areas, or sensitive Class I or Class II air regions, then a more quantitative approach to modeling direct impacts should be considered in consultation with relevant stakeholders. We also appreciate the discussion of additional factors or uncertainties in the assumptions that could decrease or increase the annual emissions estimates, including carpooling rates or the deep well drilling schedule.

The Final SEIS includes substantial updates to the discussion of global climate change and greenhouse gas emissions. The EPA appreciates the NRC's attention to this important global concern, and your responsiveness to our recommendations on the Draft SEIS. We are particularly pleased to see the addition of potential greenhouse gas mitigation measures, and recommend that the NRC encourage the applicant to implement such measures to the extent reasonable given your licensing authority.

Future Installation of Yellowcake Dryer

The Lost Creek SEIS includes analysis of the potential impacts of drying yellowcake on site as Alternative 3. According to the Final SEIS, the NRC received a notice from the applicant in April 2011 that they intend to amend their request to install a rotary vacuum dryer in the future. While we recognize that the NRC received this information from the applicant very late in the NEPA process, this is nonetheless an important item of public disclosure. We recommend that the ROD clearly indicate that, although the Preferred Alternative only processes yellowcake slurry, the facility plans to produce dry yellowcake onsite in the future. We further recommend that the differences in level of environmental impact from these two alternatives be generally discussed in the ROD, as well as the process the NRC will follow to amend the license if necessary, including any future NEPA requirements.

If you have any questions or would like to discuss our comments, please contact Suzanne Bohan, Deputy Director of the NEPA Compliance and Review Program, at (303) 312-6925. You may also contact Molly Brodin, lead reviewer for this project, at (303) 312-6577 or by email at brodin.molly@epa.gov.

Sincerely,

Carol L. Campbell
Assistant Regional Administrator
Office of Ecosystems Protection
and Remediation

Enclosure

SPECIFIC TECHNICAL COMMENTS
For use in Future ISR SEIS Projects

List of Requirements for a UIC Permit pertinent to EIS evaluations of ISR Facilities

Environmental and safety factors considered in the UIC permitting process include but are not limited to:

- Class I Injection Well
  - To qualify as a Class I injection well the injection zone must be below the lowermost USDW. This can be difficult in Wyoming since there are some USDWs at 15,000 feet below land surface.
  - If there are aquifers below the injection zone, they would either need to fall outside the definition of a USDW or be exempted as a USDW under the Aquifer Exemption process (see below) in order for the injection to be classified as Class I.
  - Construction and testing requirements for Class I wells are stringent:
    - Extensive geophysical logging program prior to and after each casing string is installed.
    - Tubing and packer must be installed in the long string of casing with the tubing set immediately above the injection zone.
    - Continuous monitoring of annulus and injection pressure as well as flow rates.
    - More frequent mechanical integrity testing, including temperature logs and/or radioactive tracer testing.
    - Increased financial responsibility requirements.
    - Surface casing cemented from the top of the lower most USDW to the surface.
    - A detailed list of requirements can be found at: http://www.epa.gov/ogwdw/uic/pdfs/page_uic-class1_summary_class1_reqs.pdf

- Class V Injection Well
  - May inject above the lower most USDWs.
  - Injectate generally must be treated to meet the maximum contaminant limit (MCL) standards at 40 CFR part 141 or otherwise cannot adversely affect the health of persons. This is generally done through reverse osmosis (RO) treatment. Requires alternative disposal plan for waste that cannot be injected.
  - Construction and testing requirements are not prescribed by regulation. Standards can be as stringent as Class I, but requirements are up to the discretion of the permitting agency.
  - Monitoring requirements are not prescribed by regulation. Requirements are up to the discretion of the permitting agency.

- Aquifer Exemption 40 CFR § 146.4
  - All aquifer exemptions must go through a public notice process. Aquifer exemption requests must identify the criteria relied upon and demonstrate that one or more criteria has been met.
  - Detailed information on the aquifers underneath the site is necessary to support an aquifer exemption request and may not be readily available.
  - Even if one or more criteria have been met, granting of aquifer exemptions is discretionary and does not have to be approved.
  - In primacy states, the state must approve the aquifer exemption and then forward to the Regional EPA office for approval.
  - In direct implementation states, the EPA reviews and approves aquifer exemptions.